REMARKS

There are no amendments to the claims.

Applicant has previously elected species Inv. 11 on page 15 where $R_{a,b,c,d,2,3,4}$ are all fluoro and $R_{5,6,7,8}$ are all p-biphenyl. Claims 1-5 and 8-40 read upon the elected species. Claims 6 and 7 have been withdrawn as non-elected.

Claims 1-5, 8-32, and 34-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. (US 2003/0137239) in view of Nakaya et al. (EP 666298).

According to the Examiner:

> Matsuura et al. discloses organic electroluminescent displays comprising between electrodes a light emission layer containing a host compound and a dopant compound wherein the dopant compound is a phosphorescent compound (see abstract). Matsura et al. teaches the host material may include known hole transporting material such as aromatic tertiary amines (see par. 77 and page 9). Matsuura et al. discloses several compounds similar to the species under consideration, but does not specifically show the species under consideration. Nakaya et al. teaches in analogous art tetraaryldiamine derivatives according to formula (5) as hole transporting compounds which read upon the species under consideration (see page 6). The variables r7, r8, r9, r10, r13, r14, r11, and r12 may be zero. R_5 and R_6 may be halogen atoms and r5 and r6 may be 4 (see page 6 and abstract). It would have been obvious to one of ordinary skill in the art to have selected the compound according to the species under consideration because Nakaya et al. clearly teaches it according to formulas (1) and (5) and it would have been obvious to one of ordinary skill in the art to have selected the compound as the host material of the Matsuura et al. device, because Matsuura et al. teaches a tertiary amine compound is desirable as the host material of the light emission layer. The properties of the host material required by the claims are considered to be inherent, because Nakaya et al. discloses the same compound as applicant.

There is no suggestion or motivation to modify Matsuura to reach the specific species or subject matter of claim 1 of the instantly claimed invention. The language of paragraph 77, page 9 of Matsuura states that, "most of the hole transporting materials or electron transporting materials as described later can be used also as the host compound of the light emission layer." Matsuura does not disclose guidelines as to what compounds will work as efficient host compounds. This 35 U.S.C. 103(a) rejection is akin to an "obvious to try" rejection which has long been held to be invalid grounds for rejection (In Re Tomlinson et al. (150

USPQ 623, 1996). The instant invention utilizes triplet energy calculations to identify suitable host materials and provides at page 42 of the specification an example, Triplet Energy Calculation Example 1, in which the triplet energy of Inv-11 is calculated. Suitable host materials must have triplet energy above that of the dopant such that the triplet exciton can be transferred efficiently from the host to the dopant. Matsuura provides no basis for making such a selection.

Nakaya also fails to provide a basis for such selection. Nakaya is directed to hole transport materials broadly and is not directed to materials to be included in an emitting layer, especially one containing a phosphorescent emitter. As demonstrated by the enclosed declaration under 35 CFR 1.132, the triplet energy calculations for the compounds of the Nakaya reference are sometimes lower than and sometimes higher than the triplet energy calculation of the phosphorescent dopant. Therefore, some of the compounds of Nakaya would not be efficient host compounds. Based on what is shown in the declaration, the Nakaya reference fails to teach or suggest selection of suitable host compounds for use in an emitting layer with a phosphorescent dopant.

The enclosed declaration under 37 CFR 1.132 compares the triplet energy calculations for the compounds of Nakaya, inventive compounds, and the phosphorescent dopant. The triplet energy calculations for the compounds of Nakaya were sometimes higher and sometimes lower than that of the phosphorescent dopant. Therefore, even if one were to attempt to substitute the Nakaya in the phosphorescent emitting layer of Matsuura, some compounds would not be suitable host compounds for the phosphorescent dopant. The inventive compound was selected to have a triplet energy greater than that of the dopant and would be an efficient host material. Therefore, the compounds disclosed by Nakaya do not suggest the selection of host materials through the use of triplet energy calculations and do not fall within the limitations of the present invention. In summary, there is no disclosure or suggestion in any combination of Matsuura and Nakaya that would motivate one to arrive at the instantly claimed invention. Therefore, it is respectfully requested that the 35 U.S.C. 103(a) rejection of the present claims as being unpatentable over Matsuura et al. in view of Nakaya et al. be reconsidered and withdrawn.

Claims 1-5, 8-32, and 35-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz et al. (US 6,740,429) in view of Nakaya et al. (EP 666298). According to the Examiner:

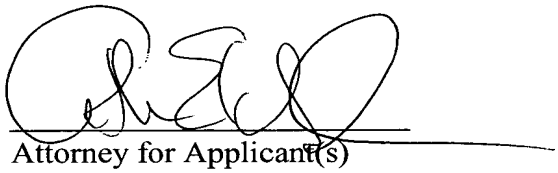
> Aziz et al. discloses organic light emitting devices comprising a mixed region between the two electrodes (see col. 7, lines 35-46). The mixed region comprises a hole transporting material preferably comprising compounds such as tertiary aromatic amines (see col. 7, lines 49-51). The mixed region further comprises 0.01 to 10 weight percent fluorescent luminescent compound (see col. 8, lines 40-43) with regard to claim 37. The mixed region may comprise phosphorescent compounds such as fac tris(2-phenylpyridine) iridium (Ir(ppy)) in an amount of 3 weight percent to 30 weight percent (see col. 8, lines 60-66). Aziz et al. fails to disclose the specific tertiary aromatic hole transporting compound now under consideration as the host material. Nakaya et al. teaches in analogous art tetraaryldiamine derivatives according to formula (5) a hole transporting compounds which read upon the species under consideration (see page 6). The variables r7, r8, r9, r10, r13, r14, r11, and r12 may be zero. R_5 and R_6 may be halogen atoms and r5 and r6 may be 4 (see page 6 and abstract). It would have been obvious to one of ordinary skill in the art to have selected the compound according to the species under consideration because Nakaya et al. clearly teaches it according to formulas (1) and (5) and it would have been obvious to one of ordinary skill in the art to have selected the compound as the host material of the Aziz et al. device, because Aziz et al. teaches a tertiary amine compound is desirable as the host material of the light emission layer. The properties of the host material required by the claims are considered to be inherent, because Nakaya et al. discloses the same compound as applicant.

There is no teaching or suggestion to modify Aziz to reach the instantly claimed invention. Aziz requires the presence of a thermal protective element on one of the electrodes, which limits the breadth of his teachings. It is not clear that the generalized teachings of Aziz will work in the absence of the thermal protective element. Aziz also requires the copresence of both hole and electron transporting materials. It is not clear that the generalized teachings of Aziz will work in the absence of this combination. Further, Aziz fails to teach the use of any particular materials of the claims in an emitting layer containing a phosphorescent emitter. As stated above, the instant invention utilizes triplet energy calculations to identify suitable host materials to be employed with phosphorescent emitters. Aziz expressly suggests compounds that would not be effective.

As noted above, Nakaya does not cure this defect as he does not teach including his materials in an emitting layer containing phosphorescent emitters. Based on what is shown in the declaration, the Nakaya reference fails to teach or suggest selection of suitable host compounds for use with a phosphorescent dopant through the use of triplet energy calculations. The data shown in the declaration demonstrate that the Nakaya reference fails to teach or suggest selection of suitable compounds for use with a dopant through the use of triplet energy calculations. There is no disclosure or suggestion in any combination of Aziz and Nakaya that would motivate one to arrive at the instantly claimed invention. Nakaya teaches the use of a broad range of compounds in hole transport and injection layers. These materials are not taught as hosts and many are ineffective as hosts. Therefore, it is respectfully requested that the 35 U.S.C. 103(a) rejection as being unpatentable over Aziz et al. in view of Nakaya et al. be reconsidered and withdrawn.

In view of the preceding amendments and remarks, the Examiner is respectfully requested to withdraw the 35 U.S.C. 103(a) rejections and to pass the subject application to Allowance.

Respectfully submitted,



Attorney for Applicant(s)
Registration No. 25,518

Arthur E. Kluegel/dlm
Rochester, NY 14650
Telephone: 585-477-2625
Facsimile: 585-477-1148

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.